BRUHAT BANGALORE MAHANAGARA PALIKE

MEASUREMENT SHEET

FIRST AND FINAL BILL

Name of work: Improvements to Roads and Drains at Chikkachannappa Layout, Sree Archid Layout, KNV 2nd Stage Roads and Surrounding areas in Ward No. 14 (Vidyaranyapura).

Estimated Cost : Rs. 55.00 Lakhs

Job Code: 014-23-000012

Head of Account : P3726 Zonal Public Works

Name of Agency: M/s. Wisdom Constructions, Prop: Sri Ashray. N, No. 40, Sukruthi, 1st Main, Shanghog Narayanappa Layout, Tatanagara, Bangalore - 92.

Work Order: BBMP/EE/BTP/WO/184/2022-23 Dated: 20-03-2023.

	Date of Recording:	11-08-2023									
Sl No	**Description of work**	**Mesurement**						**Qty.**	**Unit**	**Rate**	**Amount**
		No.	**L**	**B1**	**B2**	**Av.B**	**D**				
1	Removing and resetting of footpath slab (Approved arrival rate)							Sqm			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 01 & 03 is =							**513.42**	Sqm	246.00	**126301.00**
2	Earth work Excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work. (PWD SR 2021-22 Vol -I Pg No 5 item no 1.4.1)							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 04 & 06 is =							**580.74**			
	Qty upto 125%							**377.70**	Cum	214.00	**80828.00**
	Qty above 125%							**203.04**	Cum	214.52	**43556.00**
3	Providing and laying in position Plain Cement Concrete Mix 1:3:6 (M10) for levelling course for all works in foundation. Using 40 mm nominal size graded crushed coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (PWD SR 2021-22 Vol -I Pg 15 item no 2.1.3)							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 07 is =							**33.03**			
	Qty upto 125%							**4.05**	Cum	6408.00	**25952.00**
	Qty above 125%							**28.98**	Cum	6405.71	**185637.00**
4	Providing Size Stone masonry with hard stone in foundation & plinth with Cement mortar 1:6 (1 cement : 6 coarse sand) **Item No. 5.4, Page No. 9, Vol - II PWD SR 2021-22**							Cum			

Assistant Engineer Contractor Assistant Executive Engineer

Sl No	Description of work	Mesurement No.	L	B1	B2	Av.B	D	Qty.	Unit	Rate	Amount
	Qty as per Premeasurement Recorded vide E-Bill Page No. 08 is =							**6.90**	Sqm	6256.50	**43170.00**
5	Providing ruled pointing to cursed stone masonry with lime mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost all materials, labour, usage charges of machinery, curing complete as pre specification. **Item No. 21.10 Page No. 190, Vol - II PWD SR 2021-22**							Sqm			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 09 is =							**13.14**	Sqm	274.50	**3607.00**
6	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite / trap / basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately **Mix 1:3:6 (M10) Using 20 mm nominal size graded crushed coarse aggregate. (PWD SR 2021-22 Vol - I Pg 15 item no 2.1.4))**							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 10 is =							**3.07**	Cum	6609.50	**20291.00**
7	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. M20 (The cost of steel reinforcement & formwork to be paid separately) **(PWD SR 2021-22 Vol - I Pg 17 item no 2.4.2))**							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 11 is =							**66.15**			
	Qty upto 125%							**54.00**	Cum	7230.50	**390447.00**
	Qty above 125%							**12.15**	Cum	7227.35	**87812.00**
8	Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications. MORTH Specification NO.1600&2200 **(PWD SR 2021-22 Vol -III Pg 99 item no 13.1)**							Tonne			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 12 is =							**3.64**	Tonne		
	Qty upto 125%							**3.24**	Tonne	106354.00	**344321.00**
	Qty above 125%							**0.40**	Tonne	106304.27	**42787.00**
9	Providing and Fixing pre cast Covering Slab made out of CC 1:2:4 with 10cm thick and Finishing cutting, including form work,curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, copmplete. (Data Rate)							Sqm			
	Covering Slab										
	BNS Layout										
	L/S	1	30.00			0.90		27.00			

Assistant Engineer Contractor Assistant Executive Engineer

Sl No	Description of work	Mesurement						Qty.	Unit	Rate	Amount
		No.	L	B1	B2	Av.B	D				
		1	30.00			0.90		27.00			
		1	30.00			0.90		27.00			
		1	22.00			0.90		19.80			
	R/S										
		1	15.00			0.90		13.50			
		1	15.00			0.90		13.50			
		1	15.00			0.90		13.50			
		1	15.00			0.90		13.50			
		1	10.55			0.90		9.49			
	RR School										
		1	3.60			1.20		4.32			
		1	4.60			1.20		5.52			
		1	1.80			1.20		2.16			
		1	3.60			1.20		4.32			
		1	2.40			1.20		2.88			
		1	2.40			1.20		2.88			
		1	6.00			1.20		7.20			
		1	3.50			1.20		4.20			
								197.77			
	Total							**197.65**	Sqm	2173.00	**429493.00**
10	Providing and Fixing pre cast Covering Slab 250mm thick made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, complete. As per Engineer incharge							Sqm			
	For Culvert										
	Chikkachannappa Layout 1st Cross	1	7.30			1.20		8.76			
	Total							**8.76**	Sqm	5283.00	**46279.00**

Assistant Engineer
Ward No. 14, Vidyaranyapura

Assistant Executive Engineer
Vidyaranyapura Sub-Division

Sl No	Description of work	Mesurement No.	L	B1	B2	Av.B	D	Qty.	Unit	Rate	Amount
	Date of Recording:	11-08-2023									
11	Earth work in surface Excavation by mechanical means for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work. In all kinds of soils upto 300 mm depth (PWD SR 21-22 Vol I Pg no 8 Item No 1.12)							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 13 to 14 is =							**250.54**			
	Qty upto 125%							**225.00**	Cum	75.00	**16875.00**
	Qty above 125%							**25.54**	Cum	74.97	**1915.00**
12	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density MORTH							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 15 to 16 is =							**250.54**			
	Qty upto 125%							**225.00**	Cum	2762.00	**621450.00**
	Qty above 125%							**25.54**	Cum	2761.12	**70519.00**
13	Providing and applying Primer Coat with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means							Sqm			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 17 to 18 is =							**1002.17**	Sqm	48.00	**48104.00**
14	Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects							Cum			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 19 to 20 is =							**50.11**	Cum	10545.40	**528430.00**
15	Providing and applying Tack Coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.25 kg/m2 on the prepared bituminous surface cleaned with mechanical broom MORTH Specification							Sqm			
	Qty as per Premeasurement Recorded vide E-Bill Page No. 21 to 22 is =							**3008.06**	Sqm	16.00	**48129.00**

Assistant Engineer

Contractor

Assistant Executive Engineer

Sl No	Description of work	Mesurement No.	L	B1	B2	Av.B	D	Qty.	Unit	Rate	Amount
16	Providing and laying Bituminous Concrete with 40/60 TPH capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 percent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade,level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects							Cum			
	Road Work										
	RR School Main Road	1	15.00	4.60	4.10	4.35	0.04	2.61			
		1	15.00	4.10	4.80	4.45	0.04	2.67			
		1	15.00	4.80	5.05	4.93	0.04	2.96			
		1	15.00	5.05	4.40	4.73	0.04	2.84			
		1	15.00	4.40	5.50	4.95	0.04	2.97			
		1	15.00	5.50	5.25	5.38	0.04	3.23			
		1	15.00	5.25	4.60	4.93	0.04	2.96			
		1	15.00	4.60	4.40	4.50	0.04	2.70			
		1	15.00	4.40	4.50	4.45	0.04	2.67			
		1	15.00	4.50	4.00	4.25	0.04	2.55			
		1	15.00	4.00	4.00	4.00	0.04	2.40			
		1	15.00	4.00	4.40	4.20	0.04	2.52			
		1	15.00	4.40	4.80	4.60	0.04	2.76			
		1	15.00	4.80	4.70	4.75	0.04	2.85			
		1	15.00	4.70	4.80	4.75	0.04	2.85			
		1	15.00	4.80	4.50	4.65	0.04	2.79			
		1	15.00	4.50	4.90	4.70	0.04	2.82			
		1	11.00	4.90	4.70	4.80	0.04	2.11			
	1st A Cross S/S	1	15.00	4.70	3.70	4.20	0.04	2.52			
		1	9.40	3.70	3.80	3.75	0.04	1.41			
		1	6.00	2.90	3.20	3.05	0.04	0.73			
	2nd A Cross S/S	1	15.00	5.30	4.90	5.10	0.04	3.06			
		1	15.00	4.90	5.20	5.05	0.04	3.03			
		1	15.00	5.20	4.90	5.05	0.04	3.03			
		1	15.00	4.90	3.80	4.35	0.04	2.61			
		1	15.00	3.80	4.40	4.10	0.04	2.46			
		1	4.10	4.40	4.30	4.35	0.04	0.71			
	3rd A Cross S/S	1	15.00	3.80	3.90	3.85	0.04	2.31			
		1	15.00	3.90	3.50	3.70	0.04	2.22			
		1	15.00	3.50	3.90	3.70	0.04	2.22			
		1	15.00	3.90	3.70	3.80	0.04	2.28			
		1	15.00	3.70	3.90	3.80	0.04	2.28			
		1	6.00	3.90	4.20	4.05	0.04	0.97			
	1st Cross N/S	1	15.00	3.70	3.40	3.55	0.04	2.13			
		1	15.00	3.40	3.50	3.45	0.04	2.07			
		1	15.00	3.50	4.10	3.80	0.04	2.28			

Assistant Engineer

Contractor

Assistant Executive Engineer

Sl No	Description of work	Mesurement						Qty.	Unit	Rate	Amount
		No.	L	B1	B2	Av.B	D				
		1	15.00	4.10	4.15	4.13	0.04	2.48			
		1	15.00	4.15	3.90	4.03	0.04	2.42			
		1	9.70	3.90	4.00	3.95	0.04	1.53			
	Cross Road	1	15.00	4.50	3.20	3.85	0.04	2.31			
		1	15.00	3.20	4.10	3.65	0.04	2.19			
		1	2.50	4.10	5.50	4.80	0.04	0.48			
	2nd Cross N/S	1	15.00	4.00	3.70	3.85	0.04	2.31			
		1	15.00	3.70	4.05	3.88	0.04	2.33			
		1	15.00	4.05	4.30	4.18	0.04	2.51			
		1	15.00	4.30	4.10	4.20	0.04	2.52			
		1	15.00	4.10	4.30	4.20	0.04	2.52			
		1	15.00	4.30	4.60	4.45	0.04	2.67			
		1	13.40	4.60	4.50	4.55	0.04	2.44			
	Pot Holes										
	RR School Main Road	1	3.50			1.80	0.04	0.25			
		1	5.50			3.20	0.04	0.70			
		1	5.00			2.80	0.04	0.56			
		1	6.60			1.80	0.04	0.48			
		1	4.30			3.20	0.04	0.55			
		1	10.00			3.80	0.04	1.52			
	Total							**120.32**	Cum	12243.90	**1473215.00**

Assistant Engineer
Ward No. 14, Vidyaranyapura

Assistant Executive Engineer
Vidyaranyapura Sub-Division

Sl No	Description of work	Mesurement						Qty.	Unit	Rate	Amount
		No.	L	B1	B2	Av.B	D				
	Date of Recording:	11-08-2023									
17	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes. MORTH Specification No. 803 (PWD SR 21-22 Vol III Pg no 57 Item No 8.15)							Sqm			
	Road Work										
	RR School Main Road	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	11.00			0.10		1.10			
	1st A Cross S/S	1	15.00			0.10		1.50			
		1	9.40			0.10		0.94			
		1	6.00			0.10		0.60			
	2nd A Cross S/S	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	4.10			0.10		0.41			
	3rd A Cross S/S	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	6.00			0.10		0.60			
	1st Cross N/S	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			

Assistant Engineer

Contractor

Assistant Executive Engineer

Sl No	Description of work	Mesurement						Qty.	Unit	Rate	Amount
		No.	L	B1	B2	Av.B	D				
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	9.70			0.10		0.97			
	Cross Road	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	2.50			0.10		0.25			
	2nd Cross N/S	1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	15.00			0.10		1.50			
		1	13.40			0.10		1.34			
	Total							**67.71**		551.00	**37308.00**
18	Loading and Unloading of Stone Boulder / Stone aggregates / Sand / Kankar / Moorum. (Tipper 14 m3)							Cum			
	Qty Vide Item No- (2+11)							706.59			
	Total Qty							**706.59**			
	Qty upto 125%							**542.43**	Cum	85.00	**46106.00**
	Qty above 125%							**164.16**	Cum	85.35	**14011.00**
19	Cost of Haulage Excluding Loading and Unloading Taking output 18 t load and lead 10 km = 180 t.km							T.Km			
	Qty frm Item No-18		706.59			1.28		904.43			
	Total Qty							**904.43**			
	Qty upto 125%							**694.30**	T.Km	121.00	**84010.00**
	Qty above 125%							**210.13**	T.Km	121.10	**25447.00**
										Sub Total =	**4886000.00**
										GST @ 18% =	**879480.00**
										Grand Total =	**5765480.00**

Assistant Engineer
Ward No. 14, Vidyaranyapura

Assistant Executive Engineer
Vidyaranyapura Sub-Division